

Proposed Changes to Road Centerline Fields: Affecting GIAC Road Centerline Standard Version 1.0

From discussions within KYTC as well as other GIS users of the road centerlines, it has become apparent that some modifications to the Road Centerline Standard are needed to improve ease of use. It is critical for a standard to be a living document that adapts to the needs of its users, while maintaining structural stability to improve ease of information sharing. A meeting was held April 16, 2003 at KYTC to evaluate proposed changes to the Road Centerline Standard. There was productive discussion during the meeting and some additional ideas were brought up after the meeting. Below are the proposed changes for GIAC's consideration.

Version Name

The version would change from 1.0 to 1.1.

Accuracy Statement Revision

Replace the original statement with the following:

Current Collection Accuracy

For data currently being collected and all GPS-based road centerline data, the KYTC Division of Planning uses the geospatial positional accuracy standards proposed by the Federal Geodetic Control Subcommittee (FGCS 1994). Road centerline collection methods are based on pseudorange measurements (FGCS Classification Band IX). These differential GPS (DGPS) methods, either in post processed or real-time modes, normally provide a resulting horizontal accuracy of 0.500 – 2.000 meter radius of the relative positional error circle with a 95% confidence.

Initially, the target accuracy for new collection was sub-meter (< 1.0 meter) to two meters for all centerlines in the state. However, due to terrain, satellite positions and other constraints, the southeastern part of the state is achieving only sub-4 meter accuracy consistently. With the current limitations, it is cost-prohibitive to achieve the additional accuracy in this area of the state.

Attributes to DELETE from KYTC Road Centerlines:

The following attributes are no longer maintained as they were defined in the Road Centerline Standard. Therefore, they should be removed from the coverages and the standard.

1. **MAP_SOURCE** - Is not consistently surviving the editing/integration process. It should NOT be included in public coverages.
2. **LINKDATE** - Currently being used for the date that the coverage is converted after being received from the ADDs.
3. **ORDERDATE** - Currently being used for the date that the centerlines were GPSed. For GPSed counties already in production, the data in this field should be moved to LAST_UPDT field.

Attributes to ADD to KYTC Road Centerlines:

Additional fields are needed to improve record level metadata and also improve ease of use. The following are general descriptions of the proposed additional fields. See the subsequent table for more details.

- 1) Breakout LRS_ID into separate fields assist in searching, sorting and labeling (CO_NUMBER, RT_PREFIX, RT_NUMBER, RT_SUFFIX, and RT_SECTION). The Centerline Standard already has detailed descriptions of these in the discussion of the LRS_ID segments.
 - a) Note: **the current LRS_ID field will remain**, the listed fields will be new additions.
- 2) A field to improve simple road classification and legend building (ROUTE_TYPE).
- 3) Two fields to improve auto-labeling (SHIELD_LBL and ROUTE_LBL).
- 4) Date fields to improve metadata about the road/arc segment (LAST_UPDT, and OWNER_DATE).
- 5) A field to track each arc's status (STATUS). This is necessary to facilitate the inclusion of roads in various stages of evaluation and integration. (This is in part to facilitate the rapid inclusion of data to support the KSP PSMP initiative).
- 6) A field to link the data directly to a formal metadata description of the coverage (KYGONET)
- 7) Need to populate the existing LOCAL_KEY field. This has not been pushed through all KYTC coverages.

Table of Detailed Additional Field Descriptions

| Field Name | Field Type | Field Length | Description |
|-------------------|-------------------|---------------------|--|
| CO_NUMBER | N | 3 | County Number |
| RT_PREFIX | C | 2 | Route Prefix |
| RT_NUMBER | N | 4 | Route Number |
| RT_SUFFIX | C | 2 | Route Suffix |
| RT_SECTION | N | 3 | Section/Couplet ID |
| ROUTE_TYPE | C | 4 | This is a generalized route type that would be used for common maps. Valid types are: <ul style="list-style-type: none"> • I - Interstate • US - US Highway • PKWY - Kentucky Parkway • KY - Other State Road • CNTY - County Road • CITY - City Street • PRIV - Private • OTHR - Other (Including Forest Service Roads and IC roads) |
| ROUTE_LBL | C | 9 | Route Label - is derived from [RT_PREFIX + "-" + RT_NUMBER + RT_SUFFIX] and would look like "US-460WB" or "KY-9A." In some circumstances, this is better to label with than a shield. While some software can build multi-field labels, this is more CPU intensive than pulling from a single field and therefore effects performance for labeling on-the-fly. |
| SHIELD_LBL | C | 6 | Shield Label - This would be derived from [RT_NUMBER + RT_SUFFIX] and would look like "460WB" for US 460 West Bypass or "9A" for Kentucky 9 Alternate. |
| CO_NAME | C | 35 | County Name - (Stored in UPPERCASE). While it is recognized that this is a redundant field, it was argued that it would facilitate querying and the subsetting of roads. |
| LAST_UPDT | Date | 8 | Last Update - The date that the last changes were made to the record (spatial or arc attribute). For GPS centerline loads, a single date is calculated for them based on when they were collected. For non-GPS-ed counties, it would be calculated from the fields to be deleted (LINKDATE or ORDERDATE) whichever is more recent for the initial population of it. Note that error trapping for "Null" or erroneous dates (> today e.g. 1/1/2099) needs to be in place. |
| OWNER_DATE | Date | 8 | Date of arc's last recognition of its ownership status. Once adopted dates will be assigned as follows. For <i>state maintained roads</i> it will be the date of the Official Order. For <i>county or city roads</i> it will be the date the Fiscal Court signed off on ownership. <i>Private roads</i> will be assigned a date based on when the roads were last verified by local officials as private. There will be a global date assigned at initiation of (1/1/2000). All subsequent changes will be given a road specific date. |
| STATUS | C | 25 | The current status of the arc. Valid entries are: <ul style="list-style-type: none"> • Not Evaluated • Accepted • Rejected • To Be Deleted. Note: This is for rapid inclusion of new roads to support interagency sharing and still allow for effective evaluation and update procedures. |
| KYGEONET | C | 100 | This is a link to published metadata on the KYGEONET |